AMENDMENTS TO THE CLAIMS

Claims 1-23 (Canceled)

Claim 24 (New) A thermal barrier coating arrangement comprising:

a base material of a heat resistant alloy; and

a ceramics layer formed on said base material for enhancing heat resistance of said base material;

wherein said ceramics layer comprises ZrO_2 provided with Yb_2O_3 as a stabilizer;

wherein said ceramics layer has cracks introduced into said ceramics layer that extend in a thickness direction of said ceramics layer; and

wherein said cracks are introduced into said ceramics layer such that they extend in a range of ±40° relative to a normal line to a face of said ceramics layer and not outside the range.

Claim 25 (New) A thermal barrier coating arrangement as claimed in Claim 24, wherein said stabilizer further includes Er_2O_3.

Claim 26 (New) A thermal barrier coating arrangement as claimed in Claim 25, wherein a Yb_2O_3 addition quantity in said ceramics layer is 0.1 weight % or more and 25 weight % or less, an Er_2O_3 addition quantity in said ceramics layer is 0.1 weight % or more and 25 weight % or less, and a total of said Yb_2O_3 addition quantity and said Er_2O_3 addition quantity is 10 weight % or more and 30 weight % or less.

Claim 27 (New) A thermal barrier coating arrangement as claimed in Claim 25, wherein said ceramics layer has fine pores formed therein and a porosity of said pores relative to said ceramics layer is 8% or more and 15% or less.

Claim 28 (New) A thermal barrier coating arrangement as claimed in Claim 25, wherein an interval between adjacent said cracks is 0.05 to 1 times the thickness of said ceramics layer.

Claim 29 (New) A thermal barrier coating arrangement as claimed in Claim 25, wherein said ceramics layer in which said cracks are introduced has a corrosive component penetration preventing layer that is made of the same material as said ceramics layer and is formed on said ceramics layer.

Claim 30 (New) A thermal barrier coating arrangement as claimed in Claim 29, wherein said corrosive component penetration preventing layer has a thickness of 5 to 50 μm and a porosity of 4 to 20%.

Claim 31 (New) A thermal barrier coating arrangement as claimed in Claim 25, wherein a metallic bond layer is provided between said base material and said ceramics layer.

Claim 32 (New) A thermal barrier coating arrangement as claimed in Claim 24, wherein a Yb_2O_3 addition quantity in said ceramics layer is 8 weight % or more and 27 weight % or less.

Claim 33 (New) A thermal barrier coating arrangement as claimed in Claim 24, wherein said ceramics layer has fine pores formed therein and a porosity of said pores relative to said ceramics layer is 8% or more and 15% or less.

Claim 34 (New) A thermal barrier coating arrangement as claimed in Claim 24, wherein an interval between adjacent said cracks is 0.05 to 1 times the thickness of said ceramics layer.

Claim 35 (New) A thermal barrier coating arrangement as claimed in Claim 24, wherein said ceramics layer in which said cracks are introduced has a corrosive component penetration preventing layer that is made of the same material as said ceramics layer and is formed on said ceramics layer.

Claim 36 (New) A thermal barrier coating arrangement as claimed in Claim 35, wherein said corrosive component penetration preventing layer has a thickness of 5 to 50 μm and a porosity of 4 to 20%.

Claim 37 (New) A thermal barrier coating arrangement as claimed in Claim 24, wherein a metallic bond layer is provided between said base material and said ceramics layer.

Claim 38 (New) A turbine part comprising a thermal barrier coating as claimed in Claim 24.

Claim 39 (New) A gas turbine comprising a turbine part as claimed in Claim 38.

Claim 40 (New) A manufacturing method of a thermal barrier coating comprising:

manufacturing a thermal spraying powder by mixing together a Yb_2O_3 powder and a ZrO_2 powder;

forming a ceramics layer on a base material of a heat resistant alloy by a thermal spraying process using the thermal spraying powder; and

introducing cracks into said ceramics layer when said thermal spraying process is carried out using the thermal spraying powder.

Claim 41 (New) A manufacturing method of a thermal barrier coating as claimed in Claim 40, wherein the thermal spraying powder is further mixed with an Er_2O_3 powder in addition to the Yb_2O_3 powder and ZrO_2 powder.

Claim 42 (New) A thermal barrier coating arrangement comprising:

a base material of a heat resistant alloy; and

a ceramics layer formed on said base material for enhancing heat resistance of said base material;

wherein said ceramics layer comprises ZrO_2 provided with Yb_2O_3 as a stabilizer; and

wherein forming said ceramics layer comprises intentionally introducing cracks into said ceramics layer that extend in a thickness direction of said ceramics layer in a range of ±40° relative to a normal line to a face of said ceramics layer and not intentionally introducing cracks outside of said range.